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PROCEEDINGS OF SCIENTIFIC SOCIETIES.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—NATURAL HISTORY SECTION. *Chicago, Ill., August 5-12, 1868.* In his paper "On the Geology of the Mississippi Delta, and the Rock-salt Deposit of Petite Anse," Professor E. W. HILGARD stated that this deposit was discovered in 1862, and the entire supply during the war, of the western half of the Confederate Government, was derived from this source. The deposit was, at least, thirty-eight feet thick, and extends over a surface of one hundred and forty-four acres, and is found in some places above the present sea-level. The salt was remarkably pure and free from gypsum, though the latter occurred fifteen miles distant.

In describing the geology of the delta, the author thought its progress seaward was not so much due to a deposit of sediment as to the upheaval of the bottom of the Gulf.

Professor W. P. BLAKE, of California, read an abstract of a paper "Upon the Gradual Desiccation of the Surface of the Western portion of North America." He called attention to some of the principal facts, leaving details to a future paper. The principal evidences of a gradual desiccation are found in the interior lake system of the Great Basin in Nevada, where the chain of lakes, between the Sierra Nevada and the Humboldt Mountains, the Truckee, Humboldt, and Carson Lakes, give unequivocal evidence of drying up. Formerly these lakes were united in one, so as to form a vast sheet of water, an inland sea which extended over many degrees of latitude and longitude. This lake has left ancient shores and beaches along the sides of the mountains, the former presence of the water being made known in some places by extensive deposits of travertine, which coats the rocks and hides them from view. The Great Salt Lake, also, gives evidence of a gradual wasting away. Its shores are bordered by broad regions of lacustrine deposits. The lakes of the valley of Mexico are also drying up, and there is evidence of change within the historic period. The Tulare lakes in California do not cover near as much surface as formerly, and an extensive region at the head of the California Gulf has dried up. In all the instances mentioned the water-lines and beaches are horizontal, and show that there has not been any local elevation or disturbance. Nor is it probable that any continental elevation has been instrumental in effecting the change. The cause appears to be cosmical.

Professor J. S. NEWBERRY, of New York, presented an abstract of a paper on "The Surface Geology of the Basin of the Great Lakes and the Upper Mississippi Valley." He hoped to give some information which would aid in working out the great problem of the drift. A map was drawn showing the region under discussion. The drift formation has been investigated most generally from the top downwards. This product of the glacial period in this region has not received sufficient attention.

There was an intimate relation between the features described by General Warren and the phenomena now to be noticed. Boulders are found 500 miles from their native rocks. The valleys of the rivers were excavated by the glaciers to a depth far below their present level. Sometimes shafts are sunk 150 feet before these rock-beds are reached. There was, doubtless, once a river-connection between Lakes Erie and Ontario. Lake Erie was formerly only a river—the ancient river-beds in the vicinity being from 100 to 150 feet below the present level of the streams. At Louisville there was an apparent exception, as there were rock bottoms in the river, but the city occupies the site of the ancient river-bed. Sometimes there are two bluff formations of different ages. All this clearly indicates that formerly the country was more perfectly drained, that is, that the continent was more elevated. When these valleys were excavated, the drainage was free to the ocean, similar to the condition in California; and the rivers, by their great erosion, wore away the hard rocks. The origin of the Niagara and Hudson Rivers was evidently glacial. The ancient beds of the rivers on the Pacific Coast were far below their present level, showing great land elevation. It is not certain that the continental elevation was sufficient to afford a temperature essential to the formation of the glaciers, which were afterwards melted and left the material of the drift. The glaciers were not unbroken.

In his paper "On the Geological Age and Equivalents of the Marshall Group," Professor A. Winchell stated that this term was employed as a general designation of the rocks known as "Waverly Group," in Ohio, "Rockford beds," in Indiana, "Kinderhook Group," in Illinois, "Yellow Sandstones," in Iowa, and "Chontean Limestone" series, in Missouri. It was the object of the paper to prove, first, that these local groups are geologically equivalent; second, that they are the western representatives of the Catskill group, of New York. As accessory considerations it was shown, first, that they are characterized by a carboniferous fauna; second, that this fauna is totally distinct from that of the Portage and Chemung; third, that the Huron group, underlying the Marshall, answers to the Portage and Chemung; fourth, that there are certain conglomerates in Western New York which seem to connect the Western Marshall with the Eastern Catskill group, and thus establish their contemporaneous origin. The subject was discussed in two papers: I. Stratigraphical Considerations; II. Palæontological Considerations.

Professor WHITNEY, State Geologist of California, exhibited the human skull said to have been obtained at the depth of 130 feet below the surface, in Calaveras county, California, and read a long paper on the subject of the fresh-water tertiary, and the later detrital and volcanic formation of that State. He gave a minutely detailed account of the circumstances attending the finding of the skull, as given by Messrs. Matteson & Scribner, of Angel's Camp, and Dr. Thomas Jones, of Murphey's. Professor Whitney stated, that he had visited the locality several times, and had found no reason to doubt the good faith of the parties testifying to the

genuineness of the discovery. The bottom of the shaft, however, he had been unable to examine, owing to the presence of water, which could not be removed without considerable expense. This will be done at a future time, and a full report of the evidence obtained will be laid before the public. A careful survey of the whole region, adjacent to the locality where the skull was found, has been made, and a map, on a large scale, has been made, which is now on its way from California, and which was expected to arrive in time to be exhibited at this meeting, but which has been delayed by some accident. The evidence in regard to the authenticity of the skull was laid before the Association, in order that every one might judge for himself as to its fulness and reliability. An anatomical description of the skull, and the bones found associated with it, by Professor J. Wyman, was incorporated in this paper, from which it appeared that it was very closely related in its character to that of the crania of the present California Indians, and that where it differed from them, it approached the Esquimaux type.

Professor Whitney remarked he could not guarantee the authenticity of the discovery, but could only state that the skull had been placed in his hands by gentlemen known to himself as men of veracity, and that his own examinations and those of his assistants, after repeated visits to the parties concerned, and the region in which the discovery was made, had failed to reveal any flaw in the testimony, or any motive for deceit on their part; on the contrary, there were several additional links in the chain of circumstantial evidence which were clearly made out by a comparison of the condition of the skull, as it appeared when it came into his hand, with the statements of Messrs. Matteson & Scribner as to the locality in which it was found.

Professor Whitney insisted most strongly that, apart from anything connected with this skull, the labors of the Survey had clearly demonstrated the fact, that man, and the mastodon, and elephant, had been contemporaneous in California.*

The portion of Professor Whitney's paper relating to the skull, was followed by an abstract of the discoveries of the Geological Survey of California, relating to the animals and plants found in the fresh-water tertiary of that State, and the probable geological age of the different members of this formation, with especial reference to that of the beds in

*Mr. S. H. Scudder, Custodian of the Boston Society of Natural History, has called our attention to a specimen, interesting in this connection, presented to the Museum of the Society, accompanied by a label of which we made the following copy: "Fossil Human Skull. From a shaft in Table Mountain, California, found 180 feet below the surface, in gold drift, among rolled stones, and near mastodon debris. Overlying strata of basaltic compactness and hardness. Found, July, 1857. From C. F. Winslow, M. D., September 10, 1857."

"Hon. Paul K. Hubbs, State Supt. of Public Instruction, Benicia, California, to Dr. Winslow, August, 1857."

The specimen is a fragment a little over an inch long, and about one-third as broad, and evidently a portion of one of the tabular bones of a skull.—Ebs.

which the skull is supposed to have been discovered. Of this portion of his paper, Professor Whitney promises an abstract in time for the next number of the NATURALIST.

THE NATIONAL ACADEMY OF SCIENCE began its August meeting at Northampton, Mass., on the 25th, and remained in session four days; twenty-five members being present. We extract from the daily press a list of the papers read on Natural History.

Professor J. D. Whitney read an account of the "Origin of Bitumens, and of Experiments upon the Formation of Asphaltum;" and papers "On Topography and Topographical Work west of the 103d Meridian;" "On the Discovery of the Human Skull in Calaveras County, California," and "Some Points in the Surface Geology of the Rocky Mountains."

Mr. L. F. Pourtales read a paper on "Deep-sea Dredging in the Gulf Stream," and Mr. W. M. Gabb one on the "Cretaceous and Tertiary Formations in California."

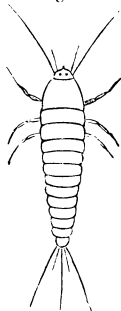
Professor W. H. Brewer made a communication "On the Distribution of Fresh Vegetation west of the Rocky Mountains;" and Professor O. C. Marsh one "On the reputed Discovery of Human Bones at Antelope Station, Pacific Railroad."

Professor G. N. Brush read a paper on "A New Borate from Mine Hill, Sussex County, N. J.;" and Professor J. S. Newberry papers on "The Transportation of the Material of the Carboniferous Conglomerate," and "The Circle of Deposition in Sedimentary Rocks;" and Professor J. P. Lesley read a paper on "Lake Formation."

ANSWERS TO CORRESPONDENTS.

H. H. B., Chicago, Ill.—The small insects you send belong to an unknown species of *Podura*, or Springtail, which are minute, wingless neuropterous insects with spines at the end of the body, modified into a leaping apparatus. We would be much obliged for specimens in alcohol of these minute insects, of which little or nothing definite is known in this country. We insert a figure of a Springtail, greatly magnified (Fig. 1), belonging to the genus *Machilis*. The Springtails are found about manure and refuse heaps, in cellars, under stones and sticks in moist places. You write us that the species found by you (which is related to the *Podura nivicola* of Dr. Fitch, which has been found on the snow, and which occurs abundantly under the bark of trees in early spring with us) "made its appearance in large quantities after the heavy rains. They are scattered throughout the drains in immense quantities, in colonies of from four to twelve inches in diameter. When grouped in such immense quantities, they are of a very dark green color." They use the "spring" almost entirely to hop with.

Fig. 1.



J. G. H., Philadelphia.—Your article was received and promptly acknowledged, but the letter was returned, not having been called for. We will print the article soon, and illustrate it. Many thanks.

E. L., Brighton, Md.—We will answer your queries about the House-fly in a forthcoming article on the Flies, to be illustrated. Flies do not grow after leaving the pupa state. The myriads of flies, little and big, we see through the summer, belong to different *species*, of which there are several thousand in this country. The Seventeen-year Locust is not known to sting; there is a bare possibility that it may insert its beak into the flesh if held between the fingers, as some other "bugs," or hemipterous insects (such as the bed-bug) are known to do.

G. E. S., Homestead, Mich.—We dare not risk naming the fish from your description. Can you not send the skull? We have ordered the book for you from London.